

QUICKTRONIC® POWERSENSE® T5 Dimming UNV Systems



Electronic T5 Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON®
2-lamp QTP2x28T5/UNV DIM

Primary Lamp Type
FP28

Also operates:
FP35, FP21, FP14

Key System Features

- Industry's first ballast that combines dimming inputs from 0-10V and/or two-wire AC dimming providing maximum flexibility
- **POWERSENSE compatibility with low voltage and power line dimmers**
- **High Efficiency**
- Lamp Detection Technology
- Universal voltage (120-277V)
- 100-1% Dimming Range
- PROStart® programmed rapid start
- Anti-flash circuitry – turns on in dimmed mode
- Lightweight and low profile
- Operates at >42kHz
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- QUICK 60+ ballast and lamp warranty
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process



Application Information

SYLVANIA QUICKTRONIC POWERSENSE ballast

is ideally suited for:

- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding
- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New construction
- Retrofit

SYLVANIA QUICKTRONIC POWERSENSE ballasts operate linear fluorescent T5 lamps over a wide (100-1%) dimming range and provide true versatility in controls selection.

QUICKTRONIC POWERSENSE ballasts feature micro-controller technology to offer the industry's most adaptable dimming ballast. Compatibility with low voltage controls, power line dimmers and any line voltage from 120V to 277V, provides the flexibility to greatly simplify the specification, purchasing and installation process.

Patented lamp detection technology delivers unmatched performance.

Variations in brightness from lamp-to-lamp are virtually eliminated, providing uniform lighting throughout the dimming range. At light levels of >75% unnecessary lamp-coil power is turned off, delivering energy efficiencies comparable to non-dimming Instant start electronic ballast. This technology also eases installation and troubleshooting by recognizing failed lamps, faulty wiring or loose



connections, and shutting down. When the problem is corrected, the system restarts automatically.

All SYLVANIA Professional Series (QTP) electronic ballasts feature high power quality (<10% THD), lightweight, low profile designs.

These ballasts are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC POWERSENSE ballasts are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

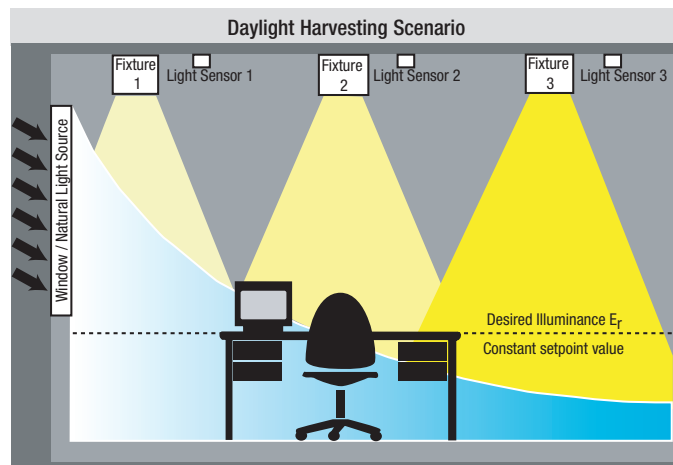
QUICKTRONIC POWERSENSE ballasts operate from standard low voltage (0-10VDC) fluorescent controllers or compatible 2-wire power line fluorescent dimmers, making them ideal for individual office lighting or automated building applications, both in new construction and retrofit projects.

For the individual office or conference room, installation can be streamlined by using a 2-wire power line dimmer; eliminating the need for additional control wires.

For more advanced systems, such as daylight harvesting or building automation applications, standard low voltage devices (0-10VDC, Class 1 or 2) are used to control the lighting system. In this daylight harvesting example, each lighting fixture (or fixture row) is controlled by its own photosensor; regulating the

light output to compensate for changes in natural daylight. Depending upon the specific application, energy savings of up to 60% compared to fixed output electronic systems can be realized.

All QUICKTRONIC POWERSENSE ballasts include a line voltage protection circuit, which protects the ballast in the event that line voltage is inadvertently applied to the low voltage control inputs.



POWERSENSE
CONTROLS

SPECIFICATION DATA

Catalog #

Date

Type

Project

Prepared by

Comments

QUICKTRONIC® POWERSENSE® Controls Information



Controls Manufacturer	Fluorescent Powerline Controllers	0-10 VDC Controllers	Photo Cells	Occupancy Sensors	Building Management Systems
SYLVANIA ELOGIC™ Controls 1-800-LIGHTBULB www.sylvania.com	X	X	X	X	
Hunt Dimming 970-484-9048 www.huntdimming.com	X	X	X	X	X
Lehigh Electronic Products 610-395-3386 www.lehighdim.com	X	X	X	X	X
Leviton Lighting Controls 800-824-3005 www.leviton.com	X	X	X	X	
Lightolier Controls 800-526-2731 www.lolcontrols.com	X	X	X	X	X
Lithonia Controls 800-533-2719 www.lithonia.com	X	X	X	X	X
Lumisys 800-241-9173 www.lumisys1.com	X	X			X
PCI 800-767-3674 www.pcilightingcontrols.com		X	X		
Sensorswitch 1-800-PASSIVE www.sensorswitch.com			X	X	
Siemens Energy & Automation 800-427-2256 www.sea.siemens.com					X
Starfield Controls 303-427-1661 www.starfieldcontrols.com		X	X	X	X
The Watt Stopper, Inc 800-879-8585 www.wattstopper.com			X	X	

Please contact controls manufacturers to order/specify controls. For the latest controls list go to www.sylvania.com
Also for more information, check out the LCA (Lighting Controls Association) site: www.aboutlightingcontrols.org

WARNING:

Install and wire these ballast and controls in accordance with the National Electrical Code (NEC), all applicable Federal, State and local electrical codes, as well as the specific instructions provided with the compatible control that you purchased.
Installation should be performed by qualified personnel only.

These instructions are guidelines only. Installation may vary for different controls/fixtures/applications. Be sure to follow the control instructions and all applicable codes and standards when installing dimming systems.

Please contact controls manufacturer listed in the OSRAM SYLVANIA Inc. controls cross reference for compatible controls and instruction wiring

NOTES: 1. Dimming ballasts source < 0.5mA (0-10VDC control input).
2. Powerline controls must be rated for the type (e.g. Fluorescent Phase-control) and size (e.g. 600W, 1000W, 1500W & 2000W etc.) of the connected load. Do NOT use incandescent powerline controls; incandescent dimmers are not rated for fluorescent loads and are NOT compatible with POWERSENSE ballasts.

Control Specifications/model numbers may change.
Please consult manufacturers listed for their latest control models and to order their controls.

T5 POWERSENSE

High Efficiency

Controls Guide



Contact the companies listed for their 2-wire Fluorescent/Powerline controls and/or 0-10V controls information.

T5 POWERSENSE Dimming Ballast
50726 QTP 2x28T5/UNV DIM-TCL

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Specifications subject to change without notice.

SPECIFICATION DATA

Catalog # _____ Date _____ Type _____

Project _____ Prepared by _____

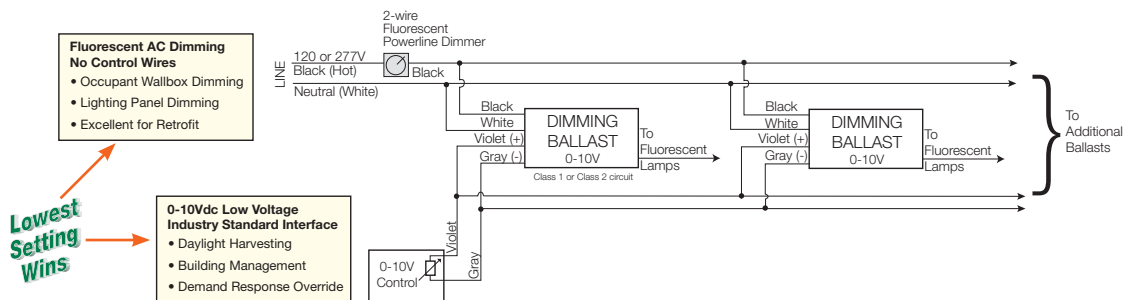
Comments _____

T5 POWERSENSE
High Efficiency

QUICKTRONIC® POWERSENSE® T5 Dimming UNV - Dimming Control Wiring Examples

Industry's 1st Ballast that allows POWERLINE Fluorescent Control **AND** 0-10Vdc Control Input simultaneously

2-wire Powerline **AND** 0-10Vdc Control with POWERSENSE Ballasts

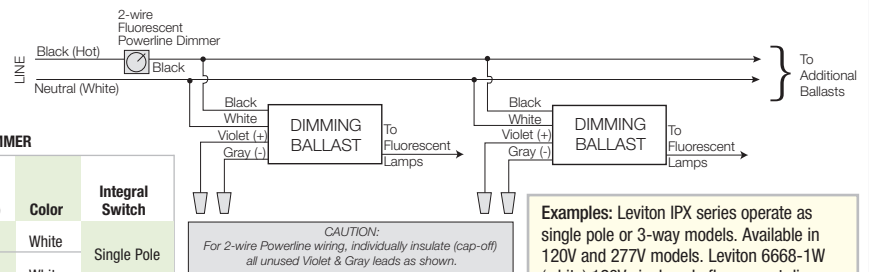


Wallbox Style 2-wire Powerline Control Wiring Example

Powerline Control Specs:

Specification-grade controls are available for 120V or 277V operation of controllable analog electronic fluorescent ballasts. Controls must be suitably rated for both the type (e.g. Fluorescent Phase-control) and size (e.g. 600W) of the connected load.

2-wire Powerline Control with POWERSENSE Ballasts



ELOGIC™ MANUAL CONTROL SLIDE FLUORESCENT PHASE CUT DIMMER

Item Number	OSRAM SYLVANIA Description	Maximum Input Current (A)			Input Voltage (V)	Color	Integral Switch
		Single	Double	Triple			
45045	ELMC-SL-FLPCWALL/120-WH	5.0A	4.5A	4.0A	120	White	Single Pole
45046	ELMC-SL-FLPCWALL/277-WH	2.2A	2.0A	1.7A	277	White	

Wallbox Style 0-10V Control with Power Switch Wiring Example

0-10V DC Control with POWERSENSE Ballasts

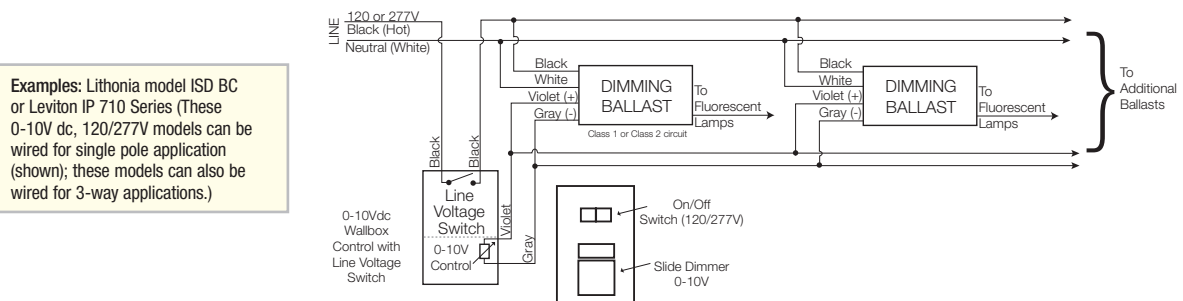
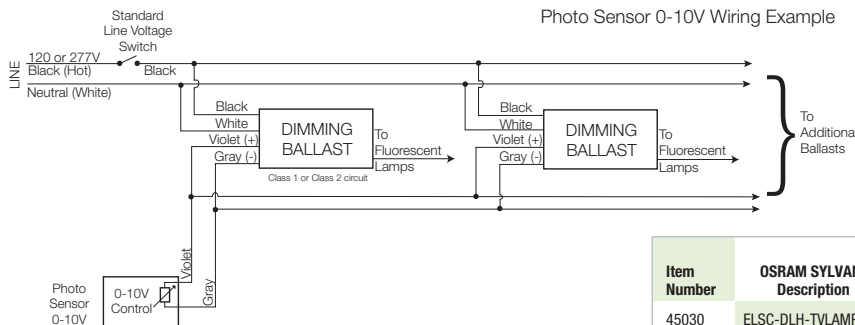


Photo Sensor 0-10V Wiring Example

0-10V DC Control with POWERSENSE Ballasts

Photo Sensor 0-10V Wiring Example



ELOGIC DAYLIGHT SENSOR ORDERING INFORMATION

Item Number	OSRAM SYLVANIA Description	Type	Ballast Control Method	Output Voltage (VDC)	Max. Input Current (mA)	Lamp Type
45030	ELSC-DLH-TVAMP/BUS	Sensor & Control for Daylight Harvesting	Analog	0-10V	6	T8 or T5 or T5HO

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 the system solution®

POWERSENSE
WIRING & CONTROLS

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Electronic T5 Fluorescent Controllable Lighting Systems



Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated ^{1,2} Lumens (lm)	No. of Lamps	Ballast ² Factor (BF)	System ² Lumens	Input ² Power (Watts)	System Efficacy (lm/W)	BEF ³
50726	QTP 2x28T5/UNV DIM-TCL	120-277	0.53/0.23	FP28	2900	2	1.00 0.01	5800 58	64/62 10	91/93	1.61
			0.67/0.29	FP35	3650	2	1.00 0.01	7300 73	81/79 10	90/92	1.27
			0.40/0.18	FP21	2100	2	1.00 0.01	4200 42	49 9	86	2.04
			0.29/0.13	FP14	1350	2	1.00 0.01	2700 27	34 8	79	2.94

1: Rated lamp lumens and performance data based on PENTRON lamps.

2: At 35°C lamp ambient temperature.

3: Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (note: calculation based on lowest wattage value)

Dimensions:

2 lamp enclosure

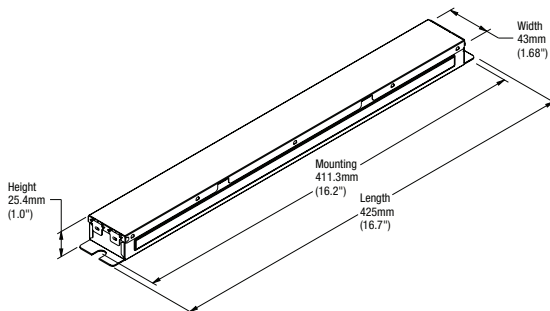
Overall: 16.7" L x 1.68" W x 1.0" H (425 x 43 x 25 mm)

Mounting: 16.2" (411 mm)

Weight: 2.1 lbs each (950 g)

Wiring:

Leads Only

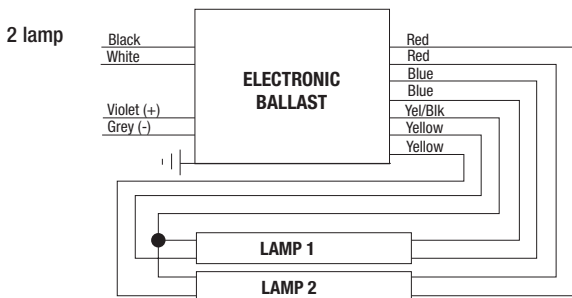


Installation Notes

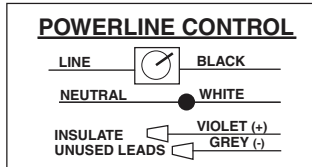
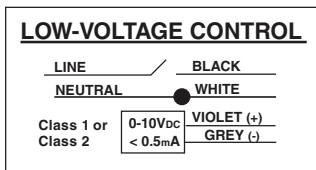
Output Wiring: Lamp wiring for dimming ballasts can differ significantly from non-dimming ballasts and from other manufacturers dimming ballasts. Take care to connect lamp lead

wires as shown on the applicable ballast diagram.

Lamp Seasoning: For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice — Lamp Seasoning for Fluorescent Dimming Systems



Input & Control Wiring Options:



Item Number **50726** QTP 2 x 28T5 / UNV DIM-TCL System Type - DIMMING/Case Size
 QUICKTRONIC PROFESSIONAL Line Voltage (120-277V)
 Number of Lamps (2) Primary Lamp Wattage

T5 POWERSENSE®

High Efficiency

Performance Guide

Data shown based upon SYLVANIA PENTRON® lamp(s). QUICKTRONIC® POWERSENSE ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on FP28

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >40kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F/10°C minimum
Input Voltage: 120-277V, ±10%
Input Frequency: 50/60 Hz
THD: <10% @ Full Output
Power Factor: >98% @ Full Output

UL Listed Class P, Type 1 Outdoor
 CSA or C/UL Certified
 70°C Max Case Temperature
 FCC 47CFR Part 18 Non-Consumer
 Class A Sound Rating
 RoHS Compliant⁴
 ANSI C62.41 Cat. A Transient Protection
 No Remote or Tandem Wiring

⁴ Complies with European Union Restriction of Hazardous Substances Directive.

Control Information

QUICKTRONIC POWERSENSE ballasts are compatible with a wide range of low voltage (0-10VDC) and power line fluorescent controllers available from various manufacturers.

Low Voltage Control Specs: Ballast will source up to 0.5mA for 0-10VDC control purposes. May be wired as a Class 1 or Class 2 circuit-consult Local and National Electrical Codes.

Power Line Control Specs: Specification-grade fluorescent controls are available for 120V or 277V operation of controllable analog electronic fluorescent ballasts. Controls must be suitably rated for both the type (e.g. Fluorescent Phase-control) and size (e.g. 600W) of the connected load.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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